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AUTHOR Rowse, Glenwood
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ABSTRACT

Baseline enrollment projections for New York State are presented, and various events that could alter the projections are examined. Almost all institutions will probably experience some enrollment decline, but the magnitude of the decline will vary across and within types of institutions. Possible sources of students are examined to encourage institutional preparedness, and areas for statewide policy development are suggested. Major trends in population and college enrollment in New York State expected between now and 1990 are summarized, and basic information relevant to student access and participation is presented. The importance of demographic shifts and institutional competitive position on the distribution of enrollments and the fortunes of individual colleges is illustrated. The possibility of increasing participation rates for specific population groups is considered, and the impact of shifting participation rates is simulated for cases of improved institutional attractiveness and implementation of a part-time Tuition Assistance Program. (SW)

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COLLEGE ENROLLMENTS AND STUDENT ACCESS IN NEW YORK STATE: PROSPECTS FOR THE FUTURE

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The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Albany, New York 12230
December 1979

HE 012 520

COLLEGE ENROLLMENTS AND STUDENT ACCESS IN NEW YORK STATE: PROSPECTS FOR THE 1980's

December 1979

This paper has been prepared to stimulate discussion of issues and alternatives for postsecondary education in New York State in the 1980's. It does not reflect official positions of either the Board of Regents or the State Education Department.

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Office of Postsecondary Education Policy Analysis
Albany, New York 12230

APR 4 1980

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FOREWORD

This paper has been prepared to promote discussion of the future of postsecondary education in New York State. It suggests issues and situations that institutions and others need to consider in developing their plans for the 1980's and that may be addressed in the Regents 1980 Statewide Plan for Postsecondary Education in New York State.

In addition to providing an assessment of overall postsecondary education enrollment prospects in the State, the paper suggests important considerations for institutional planners and policymakers. The information on college participation of minorities and adults is particularly relevant to those interested in expanding the role of postsecondary education for these clienteles. It also helps to define more clearly an important set of policy questions related to access to a college education.

A number of sentences in the report are underlined. These emphasize a particularly important fact or conclusion.

The paper was prepared by Glenwood Rowse. Questions, comments and suggestions can be directed to Mr. Rowse at (518) 474-5091.

ABSTRACT

Based on recent patterns of college participation and projected declines in pools of prospective students, full-time equivalent enrollments are expected to decline by 1990 between 10 and 30 percent for most regions of New York State. Given recent birth rates, more of the students will be from low income and minority groups. Institutional adaptations will be necessary to serve these students adequately.

This paper presents baseline enrollment projections for New York State and then examines various events that could alter the projections. Almost all institutions will probably experience some enrollment decline, but the magnitude of the decline will vary across and within types of institutions. Institutional planners will need to assess for their own situations the relevant demographic conditions, competitive factors and service options. Some institutions may be able to offset demographic declines by attracting and serving more students from traditionally underserved population groups. This paper examines possible sources of students to encourage institutional preparedness and action as well as to suggest areas for statewide policy development.

Overall college participation rates are now at an all-time high. Significant increases will probably come only at relatively higher costs. A part-time tuition assistance program might bring about a significant change but would likely cause a decline of full-time equivalents for two years following implementation. Adult pools are large but no one knows what the upper bounds are on adult participation. The rates have reached a plateau, suggesting that we may be near the ceiling. However, the increasing level of educational background of the population may help to offset a saturation of the adult population. Participation rates of women have also reached the peak levels experienced for men in the early seventies, and institutions should not count on their rates climbing higher. Black and Hispanic groups constitute the greatest underserved pool in the State at this time. If their participation rates had been the same as those of whites, there would have been 90,000 more full-time undergraduates in 1976.

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CHAPTER 1

INTRODUCTION

Colleges in New York State will increasingly experience smaller enrollments and "student bodies" with changing academic and social characteristics. Almost all institutions probably will experience some enrollment decline, but the magnitude of the decline will vary across and within types of institutions. Institutional planners will need to assess for their own situations the relevant demographic conditions, competitive factors and service options. Some institutions may be able to partially offset these demographic declines by attracting and serving more students from traditionally underserved population groups. This paper presents baseline enrollment projections for New York State and then examines the possibility that various events could substantially alter the projections. It also examines possible sources of students, both to encourage institutional preparedness and to suggest areas for statewide policy development.

The major trends in population and college enrollment in New York State expected between now and 1990 are summarized in Table 1. Chapter 2 provides additional detail on these figures as well as basic information relevant to student access and participation. Chapter 3 provides projections of enrollments and includes a summary of the likely impact of important influences on future enrollments. Chapter 4 illustrates the importance of demographic shifts and institutional competitive position on the distributution of enrollments and the fortunes of individual colleges. It then returns to the possibility of increasing participation rates for specific population groups. The impact of shifting participation rates is simulated for cases of improved institutional attractiveness and implementation of a part-time Tuition Assistance Program. Finally, Chapter 5 provides a summary of enrollment prospects for New York State.

TABLE 1. SUMMARY OF MAJOR TRENDS IN POPULATION AND COLLEGE ENROLLMENT EXPECTED IN NEW YORK STATE BETWEEN 1978-79 AND 1990-91

	1978-79 Historical	1990-91 Projected	% Change
Population by Age			
20-24	1,658,937	1,465,964	-12%
25-34	2,820,574	3,419,799	+21%
35-44	2,021,547	2,843,221	+41%
45-59	2,943,249	2,745,360	-7%
High School Graduates (1977-78)	244,922	152,136	-38%
% Black and Hispanic Seniors in New York City (1976-77)	44%	> 56%	> 27%
College Enrollments			
Full-time Undergraduates (FTUG)	537,114	414,000	-23%
Part-time Undergraduates	228,928	226,000	-1%
Full-time Graduates	45,186	42,000	-7%
Part-time Graduates	97,890	100,000	+2%
First-Professionals	22,907	23,000	0
Full-time Equivalents	719,484	593,000	-18%
Sector FTUG	varies	varies	-7 to -32%
Regional FTUG	varies	varies	-12 to -33%
Sector Faculty Counts	varies	varies	-4 to -12%

SOURCES: 1978 Official Poulation Projections, New York State Economic Development Board, Albany, New York, June 1978.

NYSED, Postsecondary Research and Information Systems.

CHAPTER 2

STUDENT ACCESS AND PARTICIPATION

Aggregate Participation

Approximately 58 percent of New York State's 1975 high school graduates enrolled in full-time degree-credit programs for the fall of 1976. Twenty-two percent (13 of the 58 percent) of them attended a college outside of the State. Instate freshmen were bolstered by the enrollment of "older" students in numbers equivalent to about 11 percent of the high school graduates and out-of-state enrollments equivalent to about 6 percent of the high school graduates. During the last few years approximately 7.0 and 1.5 percent of the population (ages 15-59) has been enrolled in undergraduate and graduate programs, respectively. Although noncredit participation appears to be growing rapidly, clear measures are not currently available. On the whole, participation rates reflect an all-time high demand for college education by New York State residents and the rates are among the highest in the nation.

Next to changes in the size of pools from which freshmen are drawn, fluctuations in college participation rates produce the greatest changes in degree-credit higher education enrollment. In 1975, a decrease in the New York statewide college participation rate for high school graduates of one percent would have resulted in 2,500 fewer full-time freshmen. If sustained for four years such a decline would have resulted in approximately 8,000 fewer full-time undergraduates based on recent attrition patterns. Because changes in the rate of as much as three percent in successive years are not uncommon, the total impact on enrollment could be as much as 25,000 students.

The possibility that 8,000 to 25,000 more or fewer students might attend college in New York State has significant implications, even if the difference were distributed evenly among all institutions. However, changes in rates tend to reflect the decisions of specific population subgroups (for example, high income families, women, or low ability students). Consequently, the impact of such changes on institutions will differ according to the types of students each institution attracts.

Faced with expected declines in the number of high school graduates, institutional planners would like to be able to encourage greater participation in higher education to maintain enrollments. On a statewide basis significant increases in participation are virtually impossible. The ratio of resident freshmen to high school graduates would have to increase from 57 percent to nearly 90 percent in 1990 in order to maintain stable freshmen enrollment. It is also unlikely that an increase in college participation by adults can fully make up the difference.

Adult Participation

A great many types of adults participate in higher education. They range from those seeking career advancement and career changes, to those, including housewives, who delayed their education and are seeking their initial degree or are seeking to broaden horizons and become eligible for jobs, to all kinds of adults seeking general interest and avocational education. Anderson and Darkenwald (1979) provide the most complete descriptive analysis of adult part-time students. From their analysis, the majority are relatively young, female, motivated to employment, employed in the education sector, and if male, eligible for veterans benefits. As the education sector declines and the GI Bill is phased out, adult participation is likely to decline. Little additional information is available about the future demand of each type of adult student. It is known that as many as 25-30

percent of adults over age 22 may be involved in some form of organized education in a given year. Less than one-third of these are involved in formal degree-credit programs offered by colleges and universities. It is not known to what extent degree-credit programs at postsecondary institutions can better attract those types of individuals now involved with programs offered by secondary schools, industry and business, churches, clubs, self-study, and even noncredit programs at colleges.

Two factors influencing adult participation are fairly certain. The primary reason for adult participation appears to be to find a means of coping with some life transition or potential stress -- career shift, divorce, retirement, inflation, etc. (See section on variables influencing enrollments starting on page 29.) Societal conditions with potential for generating personal stress appear to be increasing, and education is likely to continue to provide an important means of coping. Colleges should be aware of these underlying reasons for attendance in designing their service programs. The second factor relates to the participation of those subpopulations having different educational backgrounds. A study by the National Center for Education Statistics found the following participation rates for U.S. adults in "organized" programs, the bulk of which were not formal degree-credit programs (Gilford, 1975):

Non-high school graduate	4.1%
High school graduate	12.4%
Some college	22.9%
College graduate	30.5%

Given a continuing increase in the proportions of adults with higher education backgrounds (assuming outmigration from the State and economic influences do not appreciably alter this trend), participation rates should be influenced upward in the future. In 1970, 19.3 percent of the 25-29 age group and 14.1 percent of the 40-44 age group had 4 or more years of college in New York State. Given a small percentage increase in the rate of full-time college study and almost a 50 percent increase in the rate of part-time undergraduate study since 1970, the proportions

of college-educated should be even greater in 1980 and 1990 than they were in 1970. The following projections of populations with a college education in New York State are conservative:

Age	1970	1980	1990
25-29	19.3%	22%	23%
30-34	16.6%	21%	23%
35-39	15.7%	20%	22%
40-44	14.1%	17%	21%

Based on this factor the proportions of college-educated adults and consequently interest in part-time higher education by adults could increase significantly by 1990. An increase of 10 percent in the 1990 projection of part-time undergraduates would amount to 23,000 students statewide or over 7,500 full-time equivalent students. Despite the possibilities for expanded adult participation, it is also possible that adult enrollments will decline. Planners should therefore exercise caution in developing strategies for expanding postsecondary services for adults.

Much of the recent increase in participation rates has been due apparently to attracting a new and different type of nontraditional student, students who have delayed their education. Just as with any group of potential students, new program emphases, instructional approaches, and services will be required in order to tap fully this pool of prospective students. Although they are still a minority of the adult students, this new clientele has been found to have different motivations and cognitive styles than most traditional adult students have. Cross (1976) has labeled this group "new students" and reports that they have characteristics similar to individuals with a field-dependent cognitive style. A body of research exists which suggests that there are effective instructional methods for field-dependent students. Cross has summarized implications for the education of students with their characteristics.

"Although it is speculative at this time, I am struck by the similarities between the characteristics of field dependents and New Students. I suggest that traditional education has been geared more to the style of field independents than to the style of field dependents, giving field independents the advantage in school situations. Table 2 shows some similarities between New Students and field dependents.

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"Field-dependence-independence seems not to be correlated in any meaningful way with general intelligence in the sense that tests of cognitive style measure the same things as IQ tests. Field independence, however, has been shown consistently and positively correlated with one aspect of intelligence: analytical intelligence, which requires the separation of elements from background. It is not signficantly related to intelligence factors of verbal comprehension and attention/concentration."

- - - -

TABLE 3. SOME CHARACTERISTICS OF FIELD DEPENDENTS AND NEW STUDENTS*

Field Dependents	New Students
Like being with and relating to people. Well-developed social sensitivity.	Spend leisure time with people. Report most important college learning experiences related to getting along with others.
Attracted to careers and college majors emphasizing interpersonal relations.	Attracted to careers working with people.
Sensitive to the judgments of others. Tend to be guided by authority figures. Dependent on others for self-definition. Lack independence and autonomy.	Low scores on tests of autonomy, measuring independence of thought and judgment. Compliant to wishes and ideas of those in authority.
Extrinsically motivated; responsive to social reinforcement.	Motivation for education is extrinsic; high interest in grades, better jobs, higher salaries.
Poor at analytical problem solving.	Low scores on Theoretical Orientation (TO) scale of OPI (Omnibus Personality Inventory), a scale measuring preference for analytical and critical thinking.
Favor a "spectator approach" to concept attainment. Tend to accept problems as defined by others rather than impose their own structure.	Score low (are more passive) than traditional students on the OPI Active-Passive scale. Tend to accept situations as defined by others.
Field-dependent women favor traditional women's roles.	Career choices are strongly sex stereotyped.
Come from social and cultural backgrounds stressing obedience to authority and "tight" role definitions.	Come from blue-collar families. Favor traditional social values and respect for authority.

*Table from Cross (1976).

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"I found that, at the college, New Students are twice as likely as traditional students to say they prefer having a problem explained to them to figuring it out themselves. Most teachers are convinced that the 'independent' learner who figures out the problem for himself is considerably ahead of the 'dependent' learner. But the research on the social orientation of field dependents raises a question. Is the student who says he prefers an explanation to an independent solution being dependent and mentally lazy, as most task-oriented educators assume; or is he instead actively seeking social interaction with the explainer in the learning process? Suppose that students were permitted to work with others toward the solution of the problem. (This is 'cheating' in many schools.) Might the social stimulation activate a formerly unmotivated learner? Or, to carry the analysis further, suppose that social interaction, rather than independence, were highly valued in the schools and that all students were required to work with others in problem solving. Would the person who prefers to figure things out for himself then become passive, unchallenged, and uncooperative? If, in fact, New Students do lean toward the field-dependent end of the continuum, might the cool and detached social atmosphere of most schools be in part responsible for the passivity, lack of motivation, and occasional hostility shown in the research on New Students?

- - - -

"It appears that community college faculty - perhaps without knowing why - have devised teaching strategies that would be predicted effective for field dependents. Whereas community college teachers emphasize individual attention, student participation in class, and the personal development of students, university faculty emphasize subject matter, lecturers, and task-oriented classes (Wilson and others, 1975). Especially interesting is the finding that the more informal personally oriented approach of the community college faculty is accompanied by greater structure and control than in university teaching. Community college teachers are significantly more likely than university faculty to describe objectives at the beginning of each class session, to follow the textbook closely, to require class attendance, and to give unannounced quizzes to check on learning progress. The combination of well-defined structure within a warm interpersonal environment appears to be a very appropriate strategy for working with field dependent students."

The discussion of field dependents and new students suggests the kinds of issues which colleges must attend to in order to adapt for the students of the 1980's and 1990's. It provides a perspective for examining the enrollment projections and simulations which follow.

Minority Participation

In 1976, approximately 88,000 blacks, 40,000 Hispanics, 13,000 Asians, 4,000 Indians and 611,000 whites were enrolled as undergraduates in New York State. Blacks are more apt than other groups to attend on a part-time basis. Participation by blacks and members of other minority groups has improved significantly in recent years. In 1970, blacks represented 14.6 percent of the total 18-24 age population. They represented 8 percent of the total first-time college enrollment in New York State in that year. Census data for years after 1970 will not be available until 1980, but it is estimated that blacks are now at least 20 percent of the 18-24 age population in the State. The latest available data (Fall 1976) indicated that blacks were 13.0 percent of the full-time (only), first-time enrollment. By 1976 Hispanic students were 5.3 percent of the undergraduate enrollments, while the 1973 secondary enrollments were composed of 7.9 percent Hispanics. There have been significant improvements, but represent proportional participation does not yet exist.

To the extent that minority groups are underrepresented among college students, those groups may be a source for increasing student numbers in the future. This approach is compatible with Regents Policy:

> "Our society must provide 'equality of education opportunity' which means that access to educational resources shall be rendered as nearly equal as possible to all, regardless of race, religion, or national origin, regardless too of low economic status and poor educational preparation at earlier levels not within the control of the individual, always with consideration that the individual has the desire and the ability to pursue the education to which he aspires.
>
> "We assume that persons of the various ethnic and racial groups in our society aspire to and are capable of obtaining all the various levels of educational achievement in approximately the same proportions. Compensatory education should provide the additional skills necessary so that the provision of equal opportunity can ultimately be evaluated by educational standards which demonstrate equal achievement among the groups." (NYSED, 1972)

This policy statement is important since increasing minority participation in higher education will likely require additional State support to help deal with the financial barriers and academic unpreparedness of many members of these groups. State aid programs have been crucial to the gains which minority groups have made thus far. Of the State need-based programs, the New York State Tuition Assistance Program (TAP) is the most significant. Under this program up to $1,800 per year is provided to students on a sliding scale depending on family income and tuition charges. Estimates for 1977-78 show that over 350,000 students received TAP awards. In addition to defraying the cost of tuition for many students, this program has improved student choice by making the tuition differential that exists between public and independent institutions smaller than it otherwise would have been.

A number of programs based on aid to educationally disadvantaged rather than, or in addition to, economically disadvantaged criteria are also in place in New York State. The largest of these are the Higher Education Opportunity Program (HEOP) for independent institutions, the Educational Opportunity Program (EOP) at the State University, and the College Discovery (CD) and Search for Equality and Elevation through Knowledge (SEEK) programs at the City University. Opportunity programs continue to represent a major access channel for ethnic minorities into higher education. Despite many economic and social gains over the past decade for black and Hispanic groups (whose children made up 28.2 percent of all public school students in the State in 1977-78), there remains a close correspondence between economic or educational disadvantage and racial/ethnic minority status. Without the combined academic and financial support provided by these programs, many of the less fortunate minority high school graduates in the State would be unable to enter our institutions, or once admitted, would be unable to persist to graduation.

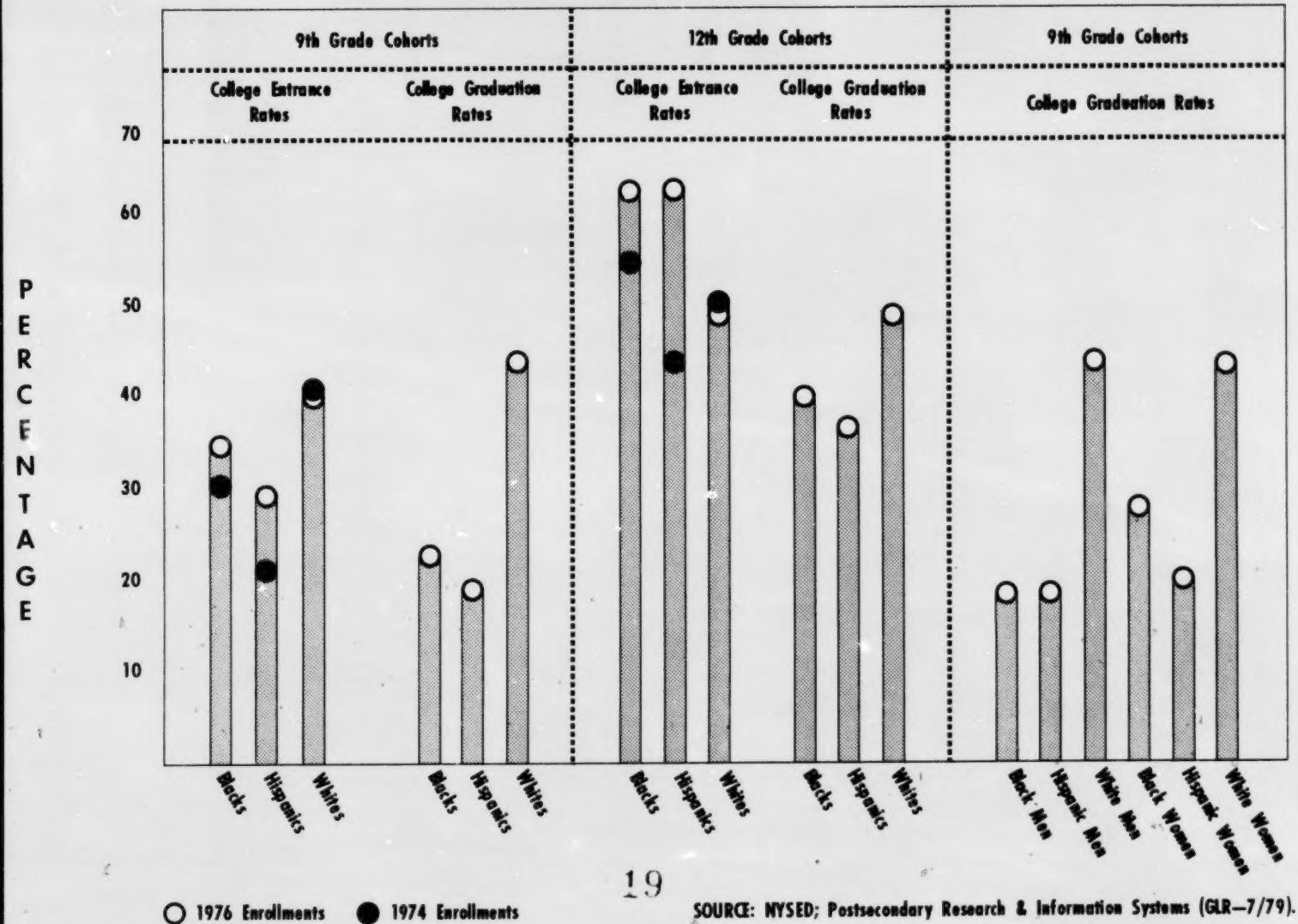
There is a preponderance of minorities in each of the opportunity programs. To give one example, approximately 466 of State University's 699 black and Hispanic bachelor's degree recipients, or two out of three, benefited from EOP in 1976-77. Thus, the opportunity programs are vital in assuring both access for all New York residents and heterogeneity of students on campuses.

The potential for expanded access to postsecondary education for minority groups is significant since black and Hispanic groups have lower participation and completion rates than whites. And because the proportion of these groups in the population is increasing steadily, the possibilities and needs will increase in the future. Figure I and Table 3 provide the best and most recent minority participation statistics that are available. Care was taken to relate college enrollments back to the appropriate high school cohort, although older college students and shifting migration patterns contribute to a fuzziness in the results that should temper interpretations. In particular the high adult participation and high net migration of Asians into New York State in recent years have inflated many of the "other" (Asians and American Indians) participation rates to well above one hundred percent.

The racial/ethnic participation rates suggest several things for planners. Based on the 1974 and 1976 data, college entrance rates of 9th grade cohorts are only 74-85 percent as large for blacks as they are for whites and only 52-73 percent as large for Hispanics as they are for whites. For those students who did not drop out in high school, blacks and Hispanics were more likely to enter college than whites. However, approximately 25 percent of the black freshmen appear not to ever obtain a degree; 14 percent of the Hispanic and almost none of the white freshmen appear to be failing to obtain a degree eventually. Based on these statistics one can conclude that aid programs at present appear to be providing high initial access to minority students who do in fact graduate from high school,

FIGURE I

NEW YORK STATE
RACIAL/ETHNIC PARTICIPATION PATTERNS
IN HIGHER EDUCATION



SOURCE: NYSED; Postsecondary Research & Information Systems (GLR—7/79).

TABLE 3. NEW YORK STATE RACIAL/ETHNIC PARTICIPATION RATES IN EDUCATION

Racial/Ethnic	Resident Full-Time First-Time College ÷ 9th Grade Enr. 1974* 1970	1976 1972	Resident Full-Time First-Time College ÷ 12th Grade Enr. 1974 1973	1976 1975	Full-Time Undergraduates ÷ 4 Years 12th Grade Enr. 1974 1970-73	1976 1972-75	Associate and Bachelor Degrees Awarded ÷ 9th Grade Enr. 1976-77 1969 & 1971	Associate and Bachelor Degrees Awarded ÷ 12th Grade Enr. 1976-77 1972 & 1974
Black	31%	35%	56%	63%	48%	47%	23%	40%
Hispanic	22	30	44	63	38	46	19	37
White	42	41	51	49	43	44	44	49
Other **	90	111	83	117	91	115	103	103
Total	39%	40%	51%	52%	44%	45%	38%	49%

Racial/Ethnic	1976 Full-Time Undergraduates ÷ 4 Years Est. 12th Grade Enr. (1972-75) by Sex: Men	Women	1976-77 Degrees Awarded ÷ 9th Grade Enrollment of Appropriate Years and Est. Sex (1969 and 1971): Men Assoc.	Men Bach.	Men Total	Women Assoc.	Women Bach.	Women Total	1976-77 Degrees Awarded ÷ 12th Grade Enr. of of Appropriate Years and Est. Sex (1972 and 1974): Men Assoc.	Men Bach.	Men Total	Women Assoc.	Women Bach.	Women Total
Black	41%	57%	6%	12%	18%	12%	16%	28%	12%	20%	32%	20%	28%	48%
Hispanic	43	48	6	12	18	8	12	20	12	20	32	18	24	42
White	46	42	16	28	44	18	26	44	18	32	50	18	30	48
Other **	124	106	36	74	110	36	60	96	32	80	112	32	62	94
Total	46%	45%	12%	26%	38%	14%	24%	38%	17%	32%	49%	19%	30%	49%

*Upper year corresponds to numerator in fraction; lower year corresponds to denominator.
**Includes American Indians and Asians.

SOURCE: Postsecondary Research Information Systems (GLR 6/79).

but that low retention rates in college, combined with the low retention in high schooi, result in continued underrepresentation of black and Hispanic minorities in higher education.

A breakdown of participation rates by sex suggests specific targets for efforts to improve participation and retention. Black women, once they become high school seniors, appear to obtain college degrees as frequently as do white women, but they follow a different pattern. They seem to enter college at a higher rate and then drop out more rapidly as well. Hispanic women also seem to enter college at high rates (though not as high as for black women) and then drop out at a substantially higher rate than white women. Despite these statistics, a greater problem is that black and Hispanic men appear to enter college at lower rates than black and Hispanic women and then to dropout at twice the rate.

Although high attrition contributes significantly to reduced minority enrollment in college, the greatest loss of students prior to college graduation appears to be related to high school dropouts, particularly for black and Hispanic men. Based on 9th grade cohorts in 1976-77, only 18 percent of the black and Hispanic males are estimated to receive college degrees eventually while 44 percent of the white males are estimated to receive degrees eventually. The corresponding figures for black women, Hispanic women and white women are 28 percent, 20 percent and 44 percent, respectively.

If the differences in racial/ethnic participation in both high school and college had been eliminated by 1976, over twice as many blacks and Hispanics would have been enrolled in college. Full-time undergraduate enrollments in the State would have increased by 16.5 percent or almost 90,000 students. On the other hand, if no action takes place the expected shift in population composition toward more minority groups may produce a rather large drop in enrollments, below the current projections. It may be difficult to bring about large increases in

participation for minority groups. Considerable dollar resources probably would be required. In addition, income and social differences which have been found to be closely related to differences in participation are not easily overcome (Aspira, 1976).

CHAPTER 3

ENROLLMENT PROSPECTS

This chapter presents basic enrollment projections or simulations for New York State and also illustrates how the State Education Department's enrollment simulation model can be used to simulate the impact of several possible assumptions about factors related to enrollment. The simulations emphasize historical patterns of participation, the impact of changing population demographics, and a few assumptions regarding likely shifts in participation patterns. In particular, the possibility that some institutions may be able to use admissions strategies to increase their share of a declining pool (if they have a low acceptance ratio) is used to shift students among institutions. Assumptions and procedures are spelled out in detail in the enrollment simulation report (NYSED, 1979).

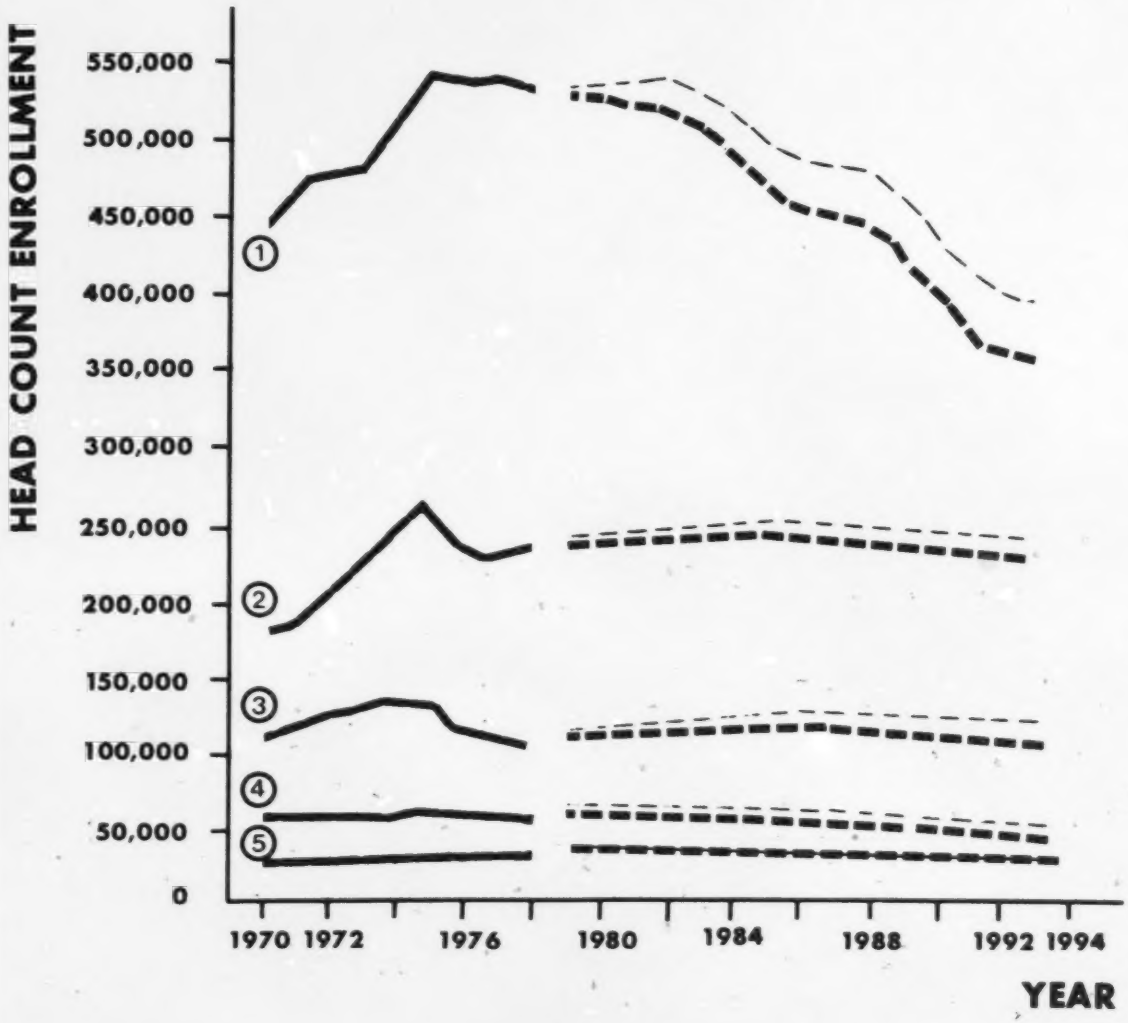
After reviewing a number of factors that influence enrollments, the following assumptions appear to be appropriate for New York State. One, recent levels of emigration from the State are expected to remain high for some time before diminishing. In fact, recent analysis of 1978 and 1979 elementary and secondary enrollments indicates an acceleration of emigration. Two, participation rates of both high school graduates and adult populations are expected to decline by small amounts. These declines are expected to result from economic pressures, poor labor markets, and an increases in the proportion of educationally and economically disadvantaged in the population. The increasing level of education of the population may act to increase certain adult participaton rates, but there is insufficient reason to build this into the simulations. And three, the increasing proportion of students from disadvantaged groups is expected to result in a slightly higher withdrawal rate before graduation.

Together, these assumptions and regional demographic trends have produced the estimates of future enrollments, summarized in Figure II and Table 4. The projections which result from the assumptions just summarized are similar to those presented in the 1978 Regents Progress Report. Most of the declines shown are due to smaller pools of high school graduates. However, the younger adult pools also begin to decline in the late 1980's. The Baseline curve shown in Figure II is based on historical participation patterns, as are the projections in the Progress Report, but it made use of an additional year's data and two methodological changes. The use of several age-related population bases rather than only high school graduates or total population to project enrollments tended to increase the projections until the late 1980's when the new method lowered the projections. Together these changes resulted in the Baseline curve. The assumptions described on the previous page brought the curve back near that shown in the 1978 Progress Report (see the One Possible Future Curve). The assumptions reflect a reasonable "most likely" condition, although there are a variety of factors that could cause future enrollments to be higher or lower (see page 27 ff.).

Full-Time Undergraduate Students

* By 1990, declines of 15-25 percent from 1978 levels, 20-35 percent (124,000-175,000 students statewide) by 1994
* A 50,000 plus decline in a three-year period (1983-1986)
* Disrupting shifts in the ability, program interests and motivation characteristics of students for almost all institutions
* A small increase in enrollment share for four-year institutions
* Older students: approximately 74 percent of the freshmen less than 20 years of age in 1990 compared to 81 percent in 1978; approximately 9 percent greater than or equal to 30 years of age compared to 5 percent in 1978; less wealthy and academically less well prepared
* Full-time undergraduates may drop from 58 percent of total head count enrollments in 1978 to less than 50 percent in the 1990's

FIGURE II **NEW YORK STATE**
Higher Education Enrollment Projections



SOURCE: NYSED: Postsecondary Information Systems

TABLE 4. HISTORICAL AND PROJECTED ENROLLMENTS IN NEW YORK STATE

Year	Full-Time Undergraduate	Part-Time Undergraduate	Full-Time Graduate	Part-Time Graduate	Total First-Professional
Historical					
1970	439,726	168,656	40,799	99,081	16,128
1971	467,144	174,640	42,656	105,455	16,863
1972	473,199	195,417	42,770	112,937	17,430
1973	491,621	219,385	43,823	118,668	17,685
1974	514,587	234,802	45,079	124,203	18,331
1975	549,374	256,086	46,675	123,608	18,835
1976	538,147	228,131	45,568	105,687	20,150
1977	542,643	225,385	45,613	101,600	21,618
1978 Prelim	537,114	228,928	45,186	97,890	22,907

Projected	A	B	A	B	A	B	A	B	A
1979	541*	539*	229*	229*	46*	45*	100*	99*	23*
1980	544	536	235	230	47	46	102	100	23
1981	545	532	236	228	47	45	103	99	23
1982	545	525	237	247	47	45	104	99	23
1983	538	513	239	231	47	45	105	100	23
1984	526	496	240	231	47	44	107	100	23
1985	512	477	242	235	48	45	108	103	23
1986	497	460	240	233	47	44	107	102	23
1987	487	448	239	231	47	44	107	101	23
1988	486	444	238	229	46	43	107	101	23
1989	478	434	237	227	46	43	107	100	23
1990	458	414	236	226	45	42	107	100	23
1991	438	393	234	223	44	41	105	98	23
1992	421	378	232	220	43	40	104	96	23
1993	412	368	230	218	43	39	103	95	23
1994	408	363	229	215	42	38	101	93	23

Key

A = Baseline Assumptions
B = Assumptions for 'One Possible Future'

*In thousands.

SOURCE: NYSED: Postsecondary Information Systems (GLR/26 Apr 79).

Full-time undergraduates are expected to decline very slowly through 1982 after which a sharp decline should occur through 1986 or 1987. It appears that there will be a stable period during 1988 and 1989 followed by another five-year period of decline. Full-time undergraduate enrollments could decline 35 percent by 1994.

The regional results indicate substantial differences among the regions (see Figure III). By 1992 the declines range from 17 percent for Long Island to 40 percent for the Buffalo region. It appears that the New York City, Mid-Hudson and Genesee Valley regions will experience greater than average declines.

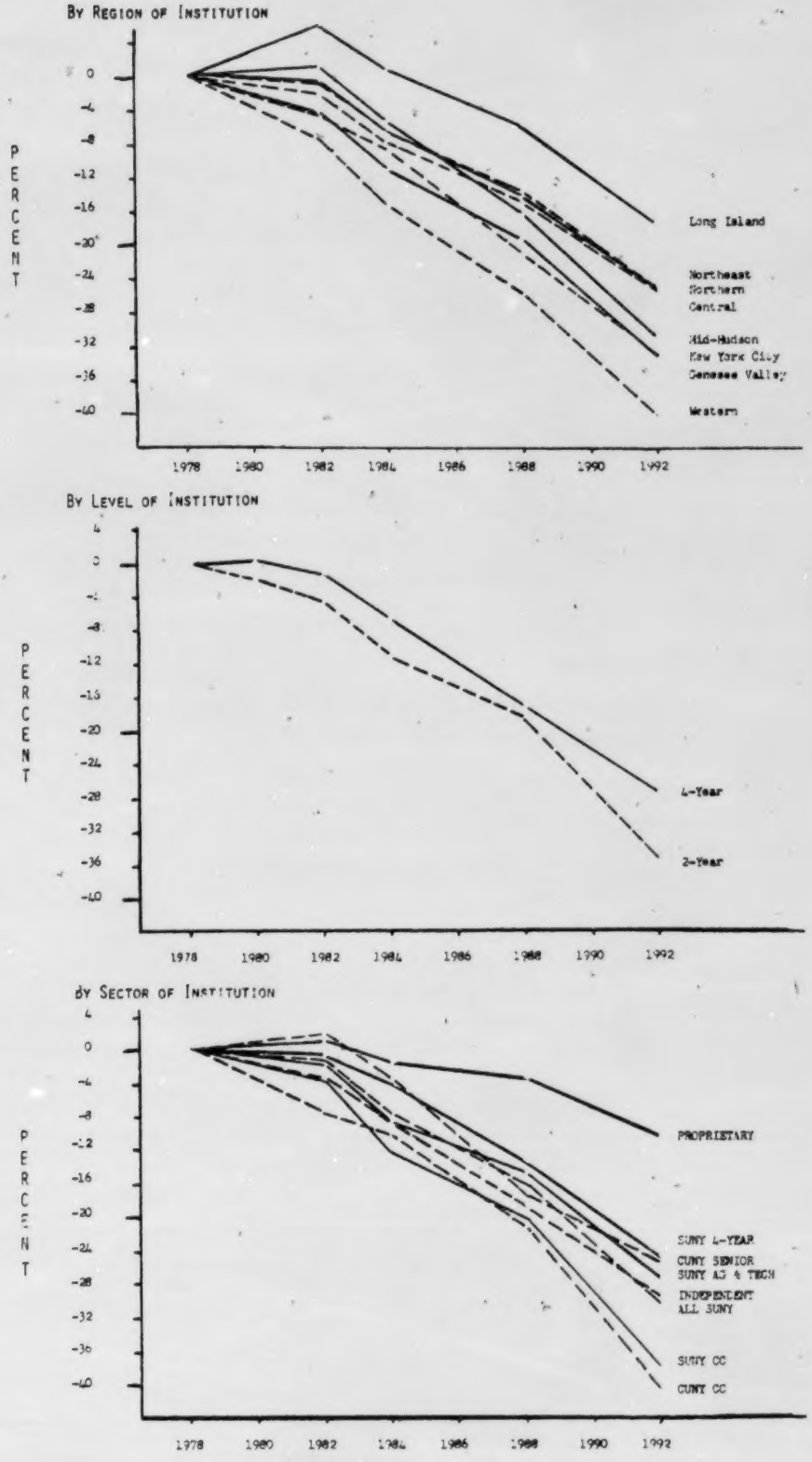
The spread shown between the regions, sectors and levels on these graphs is probably greater than will actually occur. The differences shown here are what would occur if regional demographics and current drawing power patterns were the only important factors. However, it is reasonable to assume that institutions in areas of greatest population or prospective student pool decline will respond more quickly to adapt and to attract students from other areas which would result in a small leveling effect. A small leveling effect may also occur for the sector and level differences. Four-year institutions may decline somewhat less than two-year institutions and proprietary instituitons are expected to decline less than other sectors.

The changing demographics present another perhaps equally important fact for institutions to respond to. The estimated 1978 shares and 1990 baseline shares of freshmen by age group are summarized below. The proportion of freshmen 25 years of age or older may increase nearly 60 percent by 1990.

Baseline Projected Age Distribution
of Full-time First-time Students

	Ages			
Year	19	20-24	25-29	30+
1978	80.6%	10.0%	4.4%	5.1%
1990	73.9%	10.9%	6.3%	8.9%

FIGURE III
PERCENTAGE CHANGE PROJECTED FOR NEW YORK STATE
FULL-TIME UNDERGRADUATE ENROLLMENT[1]



[1]Assumptions for one possible future.
SOURCE: NYSED: Postsecondary Information Systems (GLR 5/79).

Part-Time and Graduate Students

Part-time and graduate enrollments have significantly different prospects than do full-time undergraduate enrollments. They draw from different groups and different factors influence them. Overall, three basic trends are foreseen:

* Relatively stable statewide enrollments, declining slightly beginning in the late 1980's and continuing downward in the early 1990's

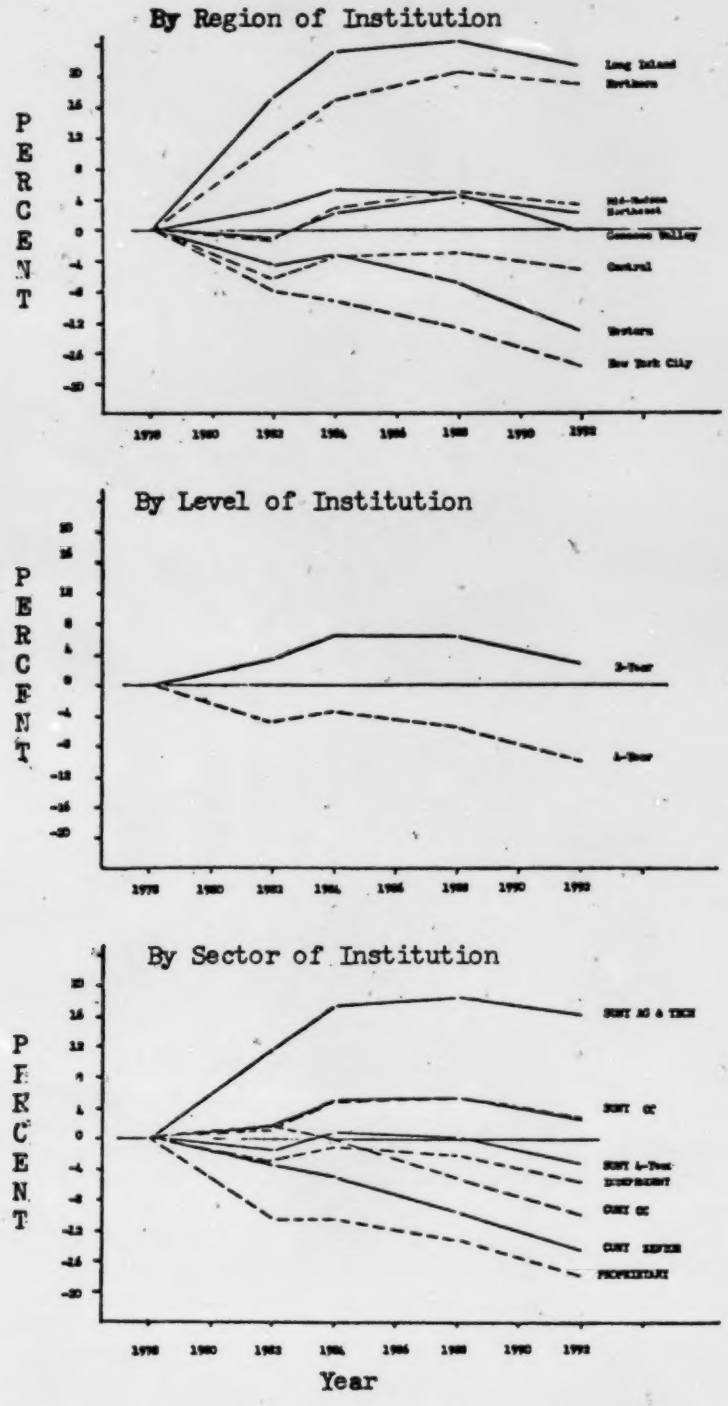
* Substantial differences in enrollment changes for institutions located in different regions or drawing students from regions with different demographic trends

* Considerable uncertainty regarding enrollments due to: significant and frequently unstable economic and social changes underway in society, the possibility of substantial changes in student aid, and lack of information regarding the effectiveness of increased marketing efforts in reaching underserved prospective student pools

Statewide, part-time undergraduate enrollment levels are expected to be only about five percent lower by the early 1990's. The population groups from which part-time undergraduates are drawn are still peaking and will not decline substantially for some time. However, the regional picture is much different. The Long Island and Northern regions could experience enrollment increases of as much as 20 percent, while the New York City and Western regions could experience enrollment losses between 15 and 20 percent. A leveling effect across regions would be less likely for part-time undergraduates, as they have typically shown very local participation patterns. No drawing power adjustments were made when distributing students for part-time undergraduate and graduate simulations.

Figure IV shows that 2-year institutions may experience a small increase in part-time undergraduate enrollments while the 4-year institutions decline by a corresponding percentage. These differences are due to the regional differences in demographic trends. The sector differences are also significant. Part-time undergraduate enrollments are quite stable in the State University, decline slightly in the Independent sector, and decline from 8 to 16 percent for City University and

FIGURE IV
PERCENTAGE CHANGE PROJECTED FOR NEW YORK STATE
PART-TIME UNDERGRADUATE ENROLLMENT[1]



[1]Assumptions for one possible future.
SOURCE: NYSED: Postsecondary Information Systems (GLR 5/79).

the Proprietary sector. The SUNY Agriculture and Technical Colleges show a large increase. This is due to one school in the Long Island region, for which there is expected to be considerable growth in the relevant age group. The simulations for the other Agriculture and Technical Colleges show relatively stable enrollment levels.

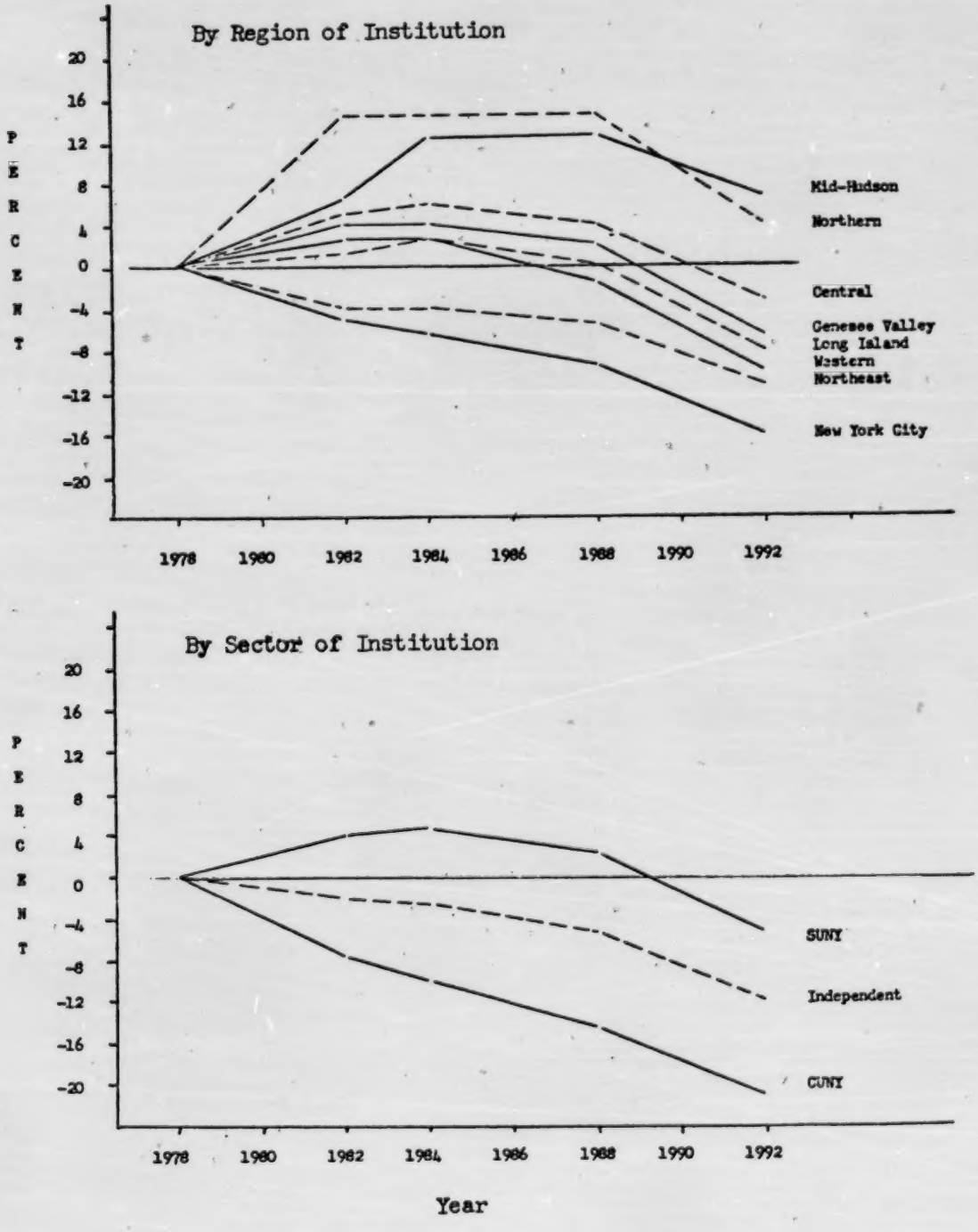
The figures suggest that the City University may not decline as much as the New York City region as a whole. It should also be noted that the adjacent regions, Mid-Hudson and Long Island, are projected to have population increases in the relevant age groups. City University typically has drawn enough students from these regions to moderate an otherwise very large decline.

Statewide, the full-time graduate enrollment simulations are stable through 1985 and then decline 15 percent by 1994. Job markets in particular may impact on these enrollments in ways which have not been anticipated. Also, shifting of enrollments among programs may be substantial in the next decade. In particular, teacher certification needs and university faculty needs will be sharply down. In general, fewer undergraduate students will mean fewer teaching assistants, less money for fellowships, and consequently lower full-time graduate enrollments.

Most full-time graduate students are drawn from somewhat older population pools than are part-time undergraduates. The demographic projections indicate enrollment increases for the Northern and Mid-Hudson regions and large declines for New York City (See Figure V). Since New York City has a substantial number of the more prestigious graduate programs, the declines indicated for that region may be overly large. The large increase in the Northern region should also be interpreted with caution; the absolute number of students in that region is quite small so a large percentage increase does not involve many students.

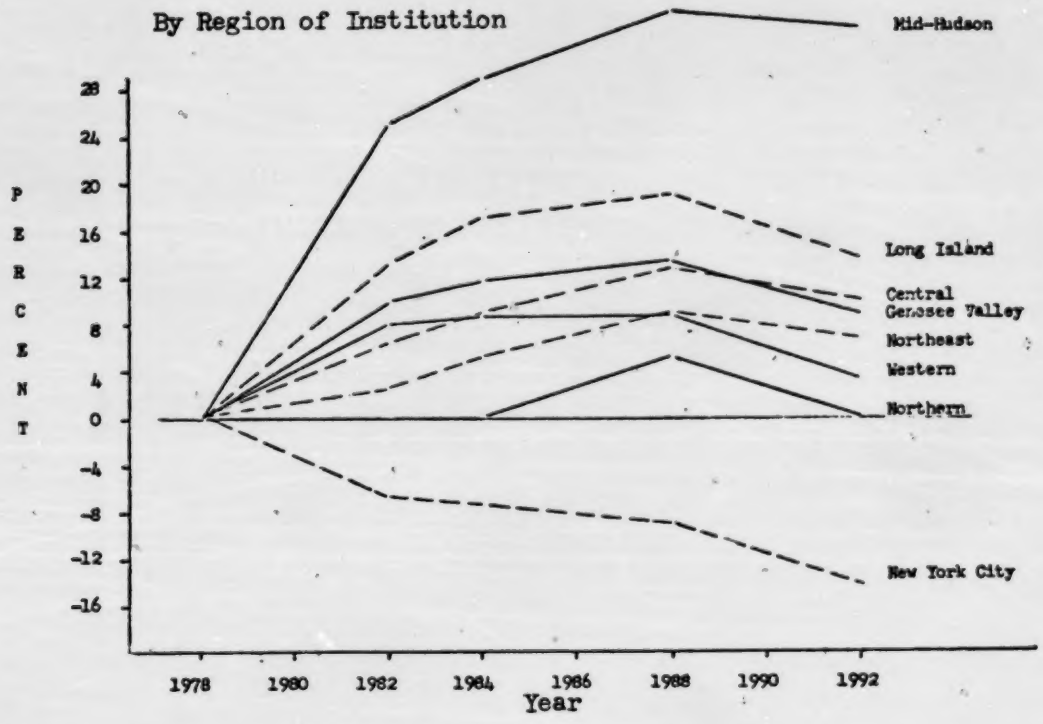
The sector curves also show differences. More State University graduate programs are located in the more "stable regions." Consequently it would seem

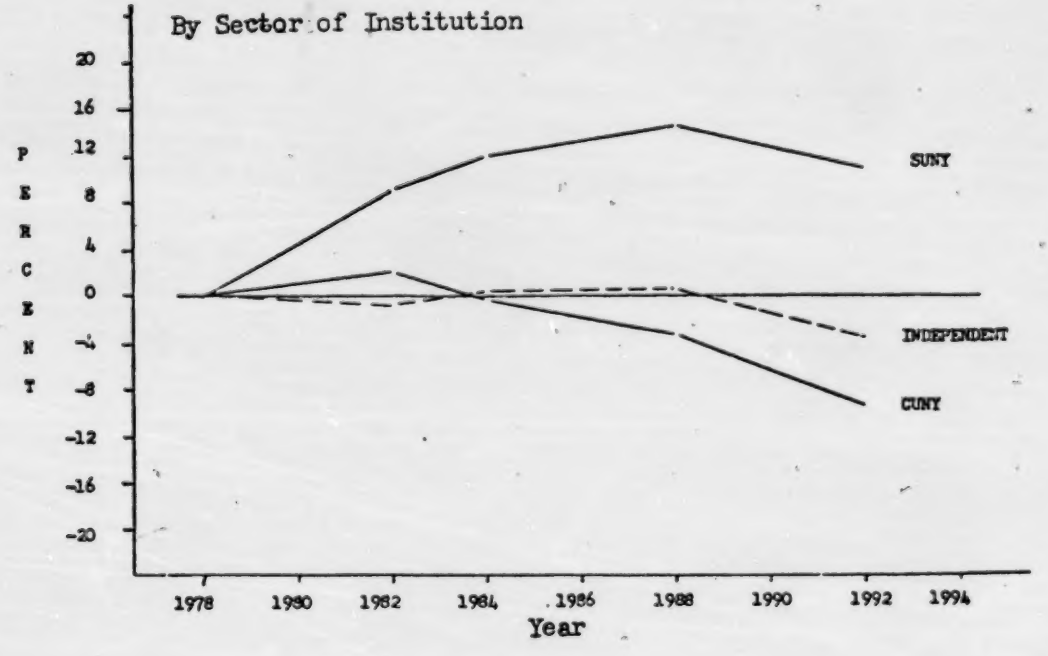
FIGURE V
PERCENTAGE CHANGE PROJECTED FOR NEW YORK STATE
FULL-TIME GRADUATE ENROLLMENT[1]



[1]Assumptions for one possible future.
SOURCE: NYSED: Postsecondary Information Systems (GLR 5/79).

FIGURE VI
PERCENTAGE CHANGE PROJECTED FOR NEW YORK STATE
PART-TIME GRADUATE ENROLLMENT[1]





[1]Assumptions for one possible future.
SOURCE: NYSED: Postsecondary Information Systems (GLR 5/79).

that State University may not experience a decline from 1978 levels until after 1988. The independent sector is more influenced by the New York City population; a greater decline is therefore indicated (up to 12 percent). City University may be hit hardest, with up to a 20 percent decline in full-time graduate students.

Part-time graduates are drawn primarily from a slightly different age group and may actually increase a small amount in the State by 1985. By 1994, a 6 percent decline from 1978 levels is anticipated based on the assumptions summarized at the beginning of this chapter. Regionally, greater differences occur for part-time than for full-time graduate students. Extremely large increases resulted for the Mid-Hudson region (over 30 percent) and all regions except New York City increased through 1988 (See Figure VI). Declines of 2 to 6 percent occurred for all regions between 1988 and 1992. New York City enrollments may decline by as much as 14 percent based on the demographic influences.

Once again State University appears to be favored by the location of its campuses. A 14 percent increase by 1988 is shown for them after which a small decline is projected. The independent sector remains quite stable and the City University declines by 9 percent between 1984 and 1992.

Full-Time Equivalents

It is commonly suggested that increases in part-time and adult enrollments may help to offset the decline expected from the traditional age groups. This reminds us that the aggregate enrollment level and composition of students at an institution as reflected by full-time equivalent statistics may be more useful than separate full- and part-time figures for some purposes. Table 5 summarizes full-time equivalent enrollments and enrollment shares.

The simulation results suggest only small changes in full-time equivalent enrollment shares by 1992 across sector, level of institution and region of

TABLE 5. FULL-TIME EQUIVALENT ENROLLMENTS AND ENROLLMENT SHARES[1]

Actual 1978, One Possible Future 1992

	Enrollments			Shares		
	1978	1992	Percent Change	1978	1992	Difference
Sector/Type						
State University	265,455	203,700	-23%	36.9%	37.0%	0.1%
4-Year[2]	135,117	108,500	-20	18.8	19.7	0.9
Agricultural and Technical	23,180	17,967	-23	3.2	3.3	0.1
Community College	107,158	77,233	-28	14.9	14.0	-0.9
City University	138,624	99,357	-28	19.3	18.0	-1.3
Senior Colleges	84,667	65,067	-23	11.8	11.8	0.0
Community Colleges	53,947	34,300	-36	7.5	6.2	-1.3
Independent	298,003	232,755	-22	41.4	42.2	0.8
Proprietary	17,402	15,433	-11	2.4	2.8	0.4
				100.0%	100.0%	
Level						
4-Year	524,420	411,245	-22	72.9	74.6	1.7
2-Year	195,063	139,967	-28	27.1	25.4	-1.7
				100.0%	100.0%	
Region						
Western	70,673	46,924	-34	9.8	8.5	-1.3
Genesee Valley	49,763	36,915	-26	6.9	6.7	-0.2
Central	92,071	72,954	-21	12.8	13.2	0.4
Northern	14,503	11,237	-23	2.0	2.0	0.0
Northeast	66,705	53,661	-20	9.3	9.7	0.4
Mid-Hudson	64,032	49,594	-23	8.9	9.0	0.1
New York City	275,738	201,415	-27	38.3	36.5	-1.8
Long Island	85,998	78,499	-9	12.0	14.2	2.2
TOTAL	719,484	551,212	-23%	100.0%	99.8%	

[1]Part-time Undergraduates were counted as 0.33 and part-time graduates and first-professionals were counted as 0.4.

[2]Four-Year Community Colleges were included in the community college total (i.e., Fashion Institute of Technology).

SOURCE: NYSED: Postsecondary Information Systems (GLR/14 May 79).

institution. The changes in share are insignificant when compared to the declines in full-time equivalent enrollments which appear likely to occur in all types of institutions in all regions. Long Island shows the smallest decline, only 9 percent. Most regions show declines between 20 and 28 percent. If the assumed patterns of participation actually do take place, the City University community colleges may decline as much as 36 percent, and the State University community colleges around 28 percent. The Western, Genesee Valley, and New York City regions are most seriously affected with 34, 26 and 27 percent simulated decline respectively. Statewide, these figures correspond to a decline of over 165,000 full-time equivalent students between 1978 and 1992.

Not only will enrollment levels be down but the composition of full-time equivalent students will also be different. Four-year institutions may increase from approximately 20 percent graduate students to approximately 25 percent. This shift appears to be most pronounced for Independent institutions and least for the City University Senior colleges. In addition, the share of first-time, full-time equivalents in four year institutions shows a decline of over 3 percent. In community colleges as many as 10 percent fewer of the full-time equivalents may be attending on a full-time basis in 1992.

Variables Which Influence Enrollments

One set of simulations which represent a likely future based on Education Department staff judgment has been presented. It relies heavily on historical participation patterns. Additional simulation curves based totally on historical participation patterns and population migration have also been provided in Figure II. The statewide difference in 1992 for these two curves is 43,000 full-time undergraduates and 52,500 full-time equivalents. Only small changes in a few variables were required to produce these significant differences in enrollment forecasts. As mentioned earlier a change of one percent in the college-going rate

sustained for four years would currently result in 8,000 more or fewer full-time undergraduates. Because changes in the rate of as much as three percent in successive years are not uncommon, the total impact on enrollment could be as much as 25,000 students.

Adult participation rates may also change significantly. The average yearly fluctuation of full-time graduate participation rates (ages 15-59) has been approximately .00035, while for part-time graduates it has been .0008 and for part-time undergraduates .0019. Since a change in these rates of .0001 changes enrollments by approximately 1,000 students, significant increases in enrollments could be achieved by bringing about what appear to be tiny changes in participation rates.

Increasing enrollments by increasing participation rates will be successful only if the population base remains at expected levels. Migration in and out of the state is one of the most volatile variables which affects enrollment, as the underestimate of outmigration from the State in 1978 by 1.5 percent is an unpleasant testimony. Assuming that a one percent change in migration continued for a five-year period, the total impact would be five percent fewer high school graduates or almost 8,000 fewer freshmen (4 years later --- 25,000 full-time undergraduates). This variable alone may be one of the most critical and unpredictable of factors which determine enrollments.

Given the limited possibilities that exist for planners to influence population migration patterns, possible changes in participation and retention rates is a logical focus. The remainder of this section summarizes information about a number of factors which influence participation rates. The discussion is organized according to three types of influences: environmental or societal characteristics, student characteristics, and institutional or supply characteristics. The anticipated influence is shown in parentheses.

Environmental Characteristics

General Atmosphere (Uncertain Influence): It has been suggested that our world is entering a period of increasing conflict. Individuals are apt to find their world less secure and comforting. Many will feel the need to be more technically literate. It is possible that many people will turn to education as a way of coping. A recent study found that 85 percent of adult students are engaged in learning because of some life transition or potential stress (Aslanian, 1979). The projected social trends which suggest this scenario are listed below:

* Shortages of energy, jobs and food
* High inflation
* Increased competition for resources
* Unequal distribution of wealth and greater minority political power
* Increased expectations stifled by drops in the standard of living, as growth of the economy slows
* Depersonalization of society due to technological advances and the breakdown of family ties
* Increasing bureaucracy, red tape and regulation
* Graying of America and its hidden $ costs
* Increasing pollution
* Declining productivity and poorer quality products
* Reduction in individual privacy
* Changing female and male roles

Increasing Costs (Small Negative Influence): The costs of tuition, books, child care, etc. are expected to increase in both the public and independent sectors at a greater rate than increases in income. Energy and other goods are rapidly increasing in relative price. The increased burden along with smaller portions of incomes that might be labeled discretionary could lower college participation, particularly among those groups for whom higher eduation is "nonessential."

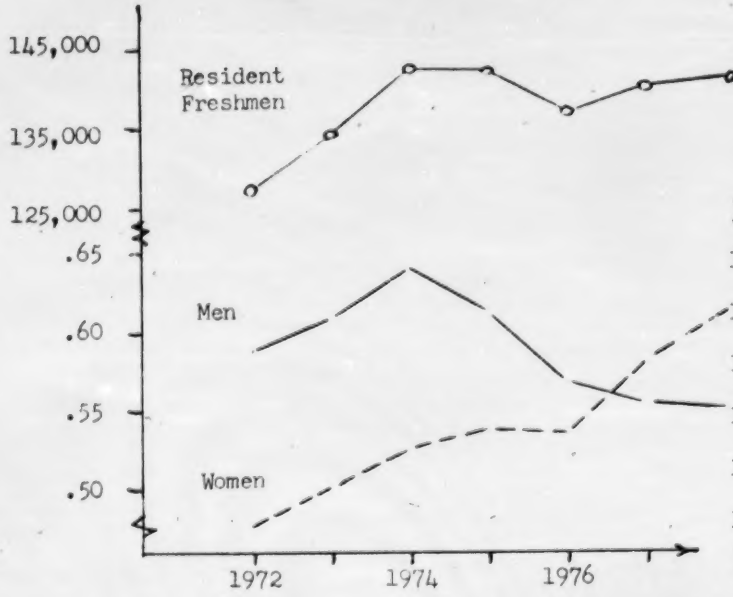
Declining Rates of Return on Investments in College Education (Small Negative): In recent years a combination of increasing costs of education, depressed job markets for college graduates, and reduced lifetime economic gain attributable to a college degree have apparently reduced college participation rates. It is not clear whether the decline identified by researchers will continue beyond that already experienced.

Lecht (1977) agrees that the economic value of a college degree has declined, but he goes on to argue that "there has been substantial overkill in the pessimistic analysis of the status of college graduates in the labor market." Among the points he feels are underattended by analysis include (a) college graduates are less susceptible to unemployment than any other group in the labor force; (b) the earnings differential favoring the college graduate group widens with age; (c) employment growth is often considered the only source of jobs, but most job openings for college graduates come about as replacement of attrition losses which the U.S. Department of Labor estimates will provide for more than half - 6.5 million - of job openings anticipated for college graduates between 1974 and 1985; and (d) due to an expected decline in the college-age population there will be fewer persons competing for entry level jobs in 1985.

The value of a college degree may have declined but it may also improve. It seems likely that college degree holders will continue to have better economic status than those not having a degree. Lecht's position is supported by Herbert Bienstock of the U.S. Department of Labor (CUNY, 1976) who asserts that the

entry-level job market will improve for college graduates in the future due to an increase in the number of available jobs relative to the number of expected graduates. Even during the recent recession when 2 million jobs were lost nationally, the number of "professional, technical, managerial, and adminstrative jobs typically held by college graduates rose by three-quarters of a million."

Increasing Participation of Women and Minority Groups (Small Positive): Although college participation rose in New York State until 1976, the increase has not occurred for all groups. The increase has been attributed primarily to increasing enrollment of women and minority group members. Enrollment of white males had already shown evidence of decline before 1976. Recent participation rates by gender for New York State are summarized below.



College Entrance Index

Year	Men	Women	Resident Full-Time Freshmen
1972	58.7%	47.7%	127,296
1973	60.8%	50.1%	134,370
1974	64.2%	52.7%	142,146
1975	61.2%	53.6%	142,025
1976	56.9%	53.3%	136,927
1977	55.3%	58.0%	139,863 (est)
1978	54.9%	60.5%	140,843 (est)

The rate for women has already climbed near the peak reached by men in 1974. These trends for New York State are similar to those observed nationally; that is, college enrollment indices for men seem to be declining while the indices for women have risen significantly in recent years. Perhaps men are responding to the decline in expected return from investment in college education as predicted by Freeman (1976). The increase for women appears to be evidence of broad changes in social attitudes regarding appropriate roles for women. Care should be taken in assuming the continuation of the new high level for women since part of the increase is probably attributable to the older age groups included in the index. At some point the "excess" demand from the older group will be filled.

TAP Incentives (Small Positive): The increased level of awards given by the State's Tuition Assistance Program seems to have had a significant impact on enrollment strategies for some students. Presently, TAP makes full-time enrollment more attractive than part-time for many students. With changes in the cost structure, fall enrollments at City University in 1977 showed strong shifts from part-time to full-time status. The total effect should be evident in two or three years, when the TAP program and its use by students have stabilized. If part-time

TAP were to be implemented, enrollment patterns would certainly be altered, but it is not known how much participation would increase.

The increase in the maximum TAP award may have a small positive effect on total enrollment, but it will probably have a greater effect on the sector distribution of students. Since the maximum award already exceeds public tuition levels, the increase can be expected to impact postively only on enrollments in the independent sector. From research on price elasticities between sectors, the effect should be quite small.

Economic Hardships (Small Negative): New York State and the nation are expected to continue experiencing economic difficulties. Economic conditions and changing social attitudes have encouraged more and more homemakers to enter the labor force. As a result, fewer individuals will be available for "nonessential" study, and participation might be reduced slightly. However, most full-time freshmen are from a younger age group and choose to attend for different reasons. Neither currently available funds nor future economic returns are expected to dominate prospective students' decisions to attend college. Howe (1976), among others, is particularly sceptical of the degree to which a student's choice to attend college is rational in terms of economic considerations such as postgraduate employment or income prospects. He points out that:

> "decisions are heavily influenced by non-economic factors, not the least of which is whether the high school experience has killed off the motivation for learning or developed it. -- Teenagers go to college to be with their friends; they go because they can't think of anything else to do (a condition created in part by the non-availability of jobs to 18 year olds); they go because their parents want them to; they go to find themselves, or to find a husband, or to get away from home, and sometimes even to find out about the world in which they live; they go because they have the money to do so and many fail to go because they don't. They also go in order to find their way into the world of work, but ten years after they leave college a very high proportion of them will find themselves doing a job they never prepared themselves for in high school or college."

These bases for college-going decisions suggest that there are probably limits on the range of college participation rates which will be observed under the existing social fabric and demographic characteristics. The potential ceiling may not be much higher than that reached in 1975 and the floor probably is higher than it was ten or fifteen years ago.

Increasing Job Requirements (Small Positive): Certification and continuing education requirements are increasing for many jobs. This will probably have a small impact on full-time undergraduate participation, and a larger impact on part-time and graduate participation.

Termination of G.I. Bill (Negative): Reduced financial support for students as a result of termination of the GI Bill may have an abrupt negative influence. Approximately 50 percent of the adult males are now eligible for veterans benefits (Anderson and Darkenwald, 1979). The potential impact of this factor needs to be more thoroughly examined.

Student Characteristics

Population Shifts (Negative): The population in New York State has recently been, and probably will continue to be, quite mobile. The State is expected to continue experiencing out-migration. Since migrants are apt to be younger adults and their children, an outflux of these residents removes disproportionate numbers of prospective full- and part-time college attendees. The negative impact on participation rates could be substantial.

Sibling Squeeze (Small Negative):

> "Children at or nearing college age are more densely spaced within families than they were a decade ago. Moreover, this demographic compression has been most intense for black and lower-income white families. The compression will persist until the children born after 1965 (who are separated from their siblings by somewhat longer birth intervals) begin to reach college age." (Carroll and Morrison, 1976)

Response to "sibling squeeze" has not been well researched but will probably reduce participation rates by some unknown degree between now and 1983 or so. Part of the response may be a shift for some prospective students from a four-year to a two-year institution rather than choosing not to attend at all.

Changing Student Composition (Large Negative): The characteristics of high school graduates will change significantly in the next two decades. During the past decade, the birth rate in the nation and in New York State has been dropping, but an increasing percentage of the births have been among low income groups, who traditionally have low participation rates. This change will carry over to high school graduates in the future and undoubtedly to the attitudes which they hold toward college attendance (Coble, 1971; Corrazzini, et. al., 1972). A lowering of overall college-going rates can be expected from this influence, although the magnitude and timing have yet to be estimated.

More Stringent High School Graduation Requirements (Unknown): New York State is implementing a new requirement that secondary students must pass a competency examintion in order to qualify for high school graduation. Concern has been expressed that current high school graduate projections for the near future are too high because they do not adequately account for the impact of these exams. Even if this is correct, it is not certain how college enrollments will be affected. One might expect that those who fail the competency exams are, as a group, less apt to attend college anyway. If so, college-going rates may increase enough to offset the decrease in the number of high school graduates. If those who fail the exam would normally have attended college, then the effect may be important only to some specific type of institution.

The competency exams may eventually result in improved curriculum and instruction and an increased high school graduation rate. If this happens, it must again be asked how the college-going rate would be affected. Any increase in the number of high school graduates would probably be from a group of individuals less inclined to continue to college under any circumstances. This might result in a reduction in the college-going rate for the total group of high school graduates which would offset the increased numbers.

Family Background in Education is Increasing (Small Positive): A much higher percentage of prospective students in the future may be third or higher generation college attendees than has previously been the case. Arguments can be made for either increasing or decreasing participation rates as a result, and certainly for different types of attendance choices. Literature review and better analysis of the family backgrounds of future students should be undertaken with respect to this question.

Military Pressures (Large Negative): In the past the military draft had a direct influence on college participation. Currently this pressure is not being felt, but the expected decline in the high school graduate pool of 8 percent by 1984 and 24 percent by 1990, coupled with a stable national need for 225,000 military recruits per year into the forseeable future is likely to place pressure on both the voluntary approach to military recruiting and college participation. Reinstatement of the draft or some form of compulsory service is a possibility, although the Defense Department is supporting the recruitment of women as a more desirable alternative. A number of restrictions on the use of women in military service have been lifted and the majority of the remaining restrictions are expected to be lifted. According to U.S. News and World Report, 1978, 1.3 percent of the enlisted military were women in 1971, 6.0 percent were women in 1977, and the Pentagon has goals of 11.1 percent by 1983 and as high as 22 percent by 1988. Recruitment of women is seen as desirable by the Pentagon since it provides a way to counter the decline in the number of men available, the drop in intelligence levels experienced with male recruits, a 40 percent first-year dropout rate, and soaring recruitment costs.

Given the expected decline in high school graduates, any program to obtain 225,000 recruits annually will reduce the proportion of high school graduates available to choose immediate entry into higher education. There will likely be some dislocations in higher education, possibly in the form of delayed entry after military service. The apparent movement toward governmental provision of postsecondary opportunities during military service could aggravate the problem, especially since the limited number of military personnel based in New York State will limit the number of linkages which colleges can make with the military for training purposes. Based on the national high school graduate distribution, New York State was estimated to supply 7.2 percent of the high school graduates in the United States in 1976. The proportion of new military recruits from New York is assumed to have been approximately the same as the New York share of national high school graduates. As the number of high school graduates declines, however, a larger proportion of New York State high school graduates would be required to obtain the same number of military recruits. For 1984, 1988, and 1992 projections, the percentages are 9.3, 9.9 and 13.0 percent respectively. If the participation pattern among those remaining held constant at the present level, this could mean as many as 25,000 fewer full-time undergraduates in 1992 than has been projected in this report. College participation after military service might increase if more college-oriented women are attracted to military service or decrease if there is an expansion of postsecondary training during military service. The participation pattern of the nonrecruits might also change depending on the characteristics of new recruits. If higher ability women (more prone to college participation than the average high school graduate) are recruited instead of low ability men (less college prone), the college participation pattern of the nonrecruits could be reduced even further. If a limited draft and the recruitment of women were adopted in the future, the impact would probably still be negative but a smaller impact would be expected.

Institutional and Supply Characteristics

Improved Accessibility (Minimal): A significant portion of the increase in participation in New York State between 1970 and 1973 can be attributed to increased accessibility of services (e.g., community college facilities) and improved financial support systems available to many students (e.g., the Tuition Assistance Program). It is possible that the availability of services may improve further and increase participation slightly in some upstate regions, but effects from this source are not expected to be significant. A simulation run was made which assumed that all counties had at least a 50 percent participation rate. The number of full-time undergraduates was increased by less than 3,000. The less populated, less wealthy rural counties generally have the lower rates. Increasing their rates may be difficult if the people there have less desire and need for education.

Selectivity Levels (Small Positive): Declining numbers of prospective students in the 1980's may encourage some institutions to lower their admissions standards in order to maintain enrollment levels. Depending on the extent to which this occurs, the distribution of students across institutions may change and participation may increase.

Institutional Recruitment and Adjustment (Small Positive): Substantive changes in the services and promotion techniques of institutions which increase the awareness or change the attitudes of prospective students can alter participation rates. Institutions may change their mix of missions, curricula, the ways in which curricula are structured and packaged, or all three (Carnegie Foundation, 1977). Coupled with carefully developed advertising and publicity directed toward prospective students, these influences could not only alter local participation, but also shift the distribution of students in a competitive environment.

Net Price Levels (Small Positive): Participation rates can be altered by the choice of tuition levels and particularly financial support strategies. Weathersby (1976) reported that a change in net cost of $100 typically results in an enrollment rate change of less than one percent for entering freshmen. Whether statewide or institutional managers will use these strategies to increase enrollments is uncertain. The effects could be substantial but also very costly (Jackson and Weathersby, 1975). Some analysts feel that tuition levels will increase to the point where it reduces participation since it is the one clear revenue source which colleges can directly influence. In contrast, Bishop (1977) feels that existing student support strategies are sufficient to maintain enrollment rates. Bishop also found price response coefficients to vary greatly for various ability/family income combinations. This is a particularly important consideration if the composition of student pools is actually changing as suggested previously, and if various social goals are to be considered when establishing policies. Targeting aid programs to specific underserved and disadvantaged groups will produce the greatest and most efficient increases in participation.

Noncollegiate Programs (Small Negative): Increasingly, industry, communities and secondary schools have been developing training programs for interested adults or their own members. The trend is expected to continue and to pull students away from colleges, the extent being determined by how well colleges adapt to offer better alternatives. Carefully developed relationships and contracts between colleges and these other groups could feasibily reverse the trend. The success of these efforts is uncertain.

Interstate Migration of Students (Minimal): Shifts in in- and out-migration of students are hard to predict. New York State has typically exported almost twice as many students as it has received from other states and nations. In 1975, approximately 32,000 freshmen enrolled in other states while 16,000 enrolled in New York State from other states and nations. Out-of-state and foreign students accounted for a total of 60,000 full-time undergraduates. Seventy-two percent of the out-of-state undergraduates came from the Northeast and Mid-Atlantic U.S. Census regions.

The reason that New York State is a net exporter is not entirely clear. Factors affecting the migration of students are: 1) relative tuition and cost levels, 2) portability of student aid, 3) unique program offerings and reputation, and 4) trends in high school graduate pools. Public sector out-of-state tuition levels did rise substantially in 1978 for many neighboring states, providing hope that New York's relative position may be improved. States could choose to lower out-of-state tuition to attract students although this is unlikely in light of current concerns about public expenditures. We see no compelling reason to assume that the basic balance will shift futher in the future. Portability of student aid by New York State residents is not permitted while it is for the residents of several neighboring states. Despite pressures from other states, the potential loss of students will likely deter any change in policy. If any shift in the balance occurred it would more likely be a withdrawal of portability to New York State by other states. In terms of program offerings and college reputation, a number of New York's stronger colleges are competing with elite out-of-state colleges such as MIT, Yale, Harvard, etc. The competitive balance may favor out-of-state institutions as declining pools force greater dipping into applicant pools.

This brings us to out-of-state high school graduate projections which is perhaps the most important determinant of enrollments of students out-of-state. Percentage changes projected in high school graduate pools by state from 1976 levels are summarized below:

	New York	New Jersey	Penn.	Ohio	Mass.	Conn.	Verm.
1980	-2.1%	-.2%	-7.8%	-4.8%	0.3%	-0.3%	4.5%
1985	-18.9%	-16.5%	-22.1%	-21.1%	-15.2%	-10.4%	-10.2%
1988	-20.4%		-23.5%				
1990	-35.1%	-30.7%		-32.1%	-35.6%	-24.4%	-8.4%

The declines in neighboring states are quite similar to those in New York. Out-of-state student levels should drop approximately as much as resident student levels. This information was used in making the enrollment projections presented in this paper.

Cultivation of Foreign Student (Small Positive): Foreign students represent a source of students which could possibly be expanded. Unfortunately, foreign students also bring extra costs in terms of their need for special programs, remediation and general integration with the rest of the student body. A number of institutions have had serious problems in this regard. It is unclear to what degree this pool will be tapped effectively in the future. Given access at full-cost to the student, this strategy would contribute to economic goals of the State. Quite a number of developing countries clearly have a need for this service, but their demand would have to be carefully cultivated.

CHAPTER 4

INSTITUTIONAL ENROLLMENTS

The scenario for 1992 is one of (1) fewer numbers of students who will (2) be interested in different types of programs and, (3) be more likely to attend on a part-time basis. The (4) average ability of these students may also be slightly lower than at the present time. The specific situations of individual institutions will vary considerably as they do today. In 4-year colleges a (5) greater emphasis will be directed toward graduate education. This does not imply an increase in resources allocated to graduate education but rather a decrease to undergraduate education. In addition, these changes will occur during a period of high inflation, increasing energy costs and generally tighter financial resources. Adapting faculty and curriculum and procedures to meet this new set of circumstances will require exceptional management.

Institutions seeking to survive in this environment have four courses open to them: They can (1) become smaller, (2) attempt to compete more effectively for the same types of students they currently enroll, (3) attempt to better retain enrolled students or (4) seek new sources of students. This section discusses the more important influences on the enrollments of individual colleges.

A Fixed-Sum Game

All institutions need to recognize that after all their individual and collective efforts to increase participation rates, there will still be only a certain number of students available. If one college increases its enrollment, one or more others will experience a decrease. Competition already appears to be increasing. Between fall 1975 and fall 1976 over one-third of the institutions in New York State

reported changes of greater than 20 percent in their freshmen enrollments, and over half reported changes of greater than 10 percent. Significant changes were experienced by all types of institutions. This occurred despite only a 3.5 percent change in statewide freshmen enrollment.

Nearly all institutions are vulnerable to competitive forces, and reputation and quality and general "prestige" are not automatically synonomous with enrollment drawing power. It is likely that a more prestigious college would have more flexibility to adapt. If no adaptation is made, however, significant enrollment declines may occur. The dominant institutions in any competitive group will attract students from the "middle draw" members and consequently do relatively well. Those near the middle initially may suddenly find themselves dominated unless they make adjustments.

A study of New York State data to identify relatively distinct groups of institutions that students tend to consider together provides some insights on this matter. Approximately forty relatively distinct groups of institutions having from two to eight members were identified. To the extent that institutions in these student-defined groups fail to compete effectively for students in joint application situations, they may experience larger than average declines. Such "dominated" institutions may be able to shift missions and admissions, thereby move to the top of another group and maintain enrollments. Ultimately, of course, this "bumping" procedure will shut some institutions out.

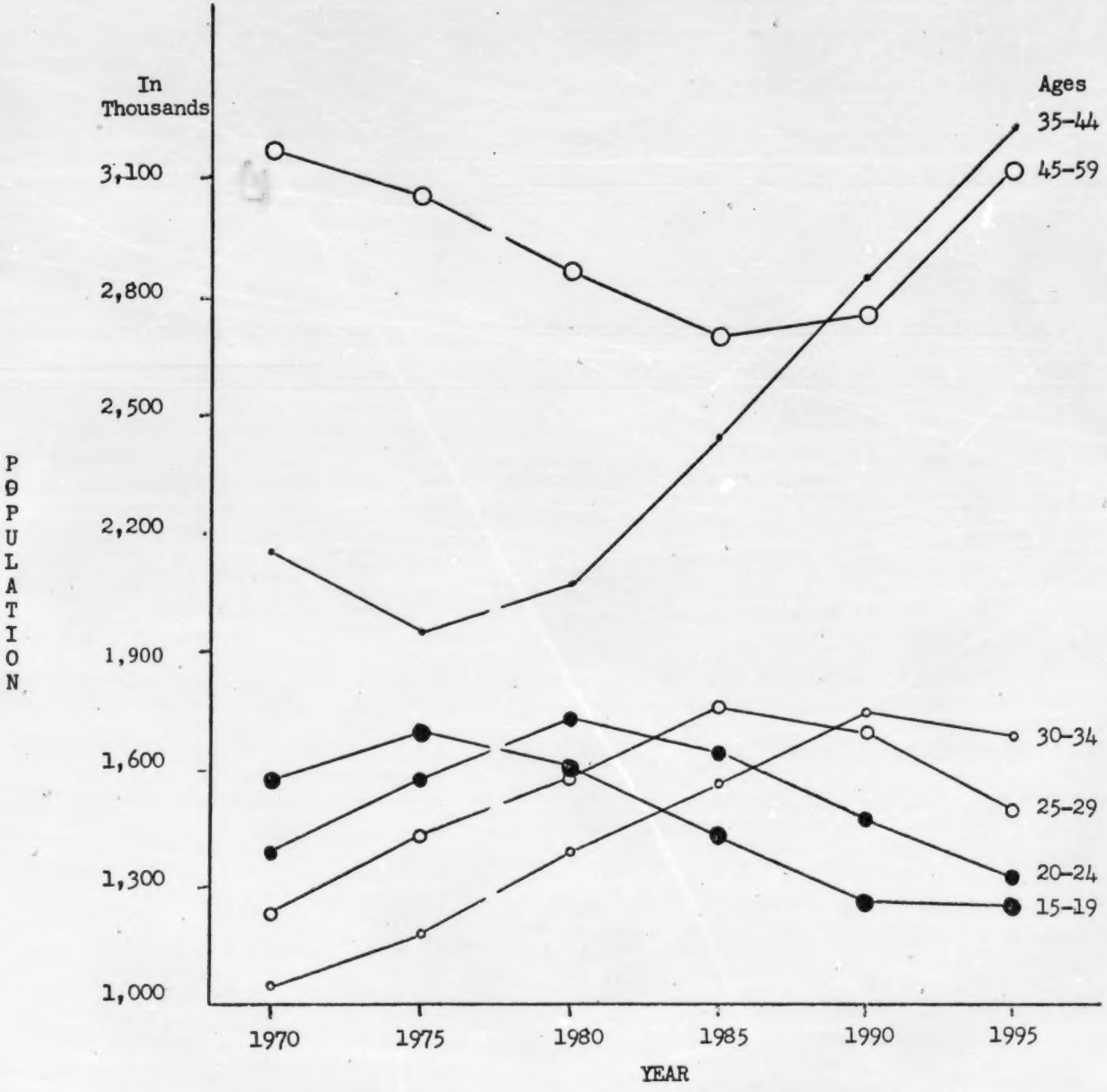
What may happen to the 25 percent of institutions in New York State which were not observed to belong to any competitive group is less certain. Many are proprietary, many are small, and a substantial number are specialized. If they draw from a unique pool, then their fortunes will be tied directly to changes in the pool and their willingness to adjust admission standards and otherwise adapt. If they compete in a diffuse manner with many of the institutional groups, they may be in a less competitive position than they were before.

Demographic Patterns

The fortunes of many colleges will be in the trend lines for their particular sources of students, their competitive position, and their ability to adapt. Consider for example the situation of many community colleges. Most draw heavily from their local communities. They will be affected most by the demographic trends in that area and the program offerings and competitive actions of the other colleges in that same area. If the community college has some sort of distinctiveness, it may draw students from farther away and be in competition with a larger set of colleges. Even if only 15 to 20 percent of its enrollments are from the larger area, careful attention to these students is advisable. Demographic trends in those other areas should be monitored, as should the offerings of competing institutions in those regions. Nor is it enough to analyze general demographic trends. Attempts should be made to assess the trends for the specific types of students attending one's own college - using age, racial/ethnic, wealth and other social characteristics. Increasing gasoline costs may alter residence and migration patterns for some groups. In addition, the statewide trend lines for specific age groups in particular are quite different as shown in Figure VII. Regional and county analyses show even greater variations. The 35 to 44 age group is clearly the most promising pool of new students in terms of both its current and projected size, but only if colleges can find ways to serve and attract it.

Prestigious independent or public institutions, on the other hand, are apt to draw students from all over the State. Their futures are probably more closely tied to competitive conditions than to demographic trends. They will have a wide variety of institutions trying for "their" students. Relative distinctiveness, overall attractiveness, and adaptability will be important strategic variables. Unfortunately, even if all institutions adapt well (an extremely optimistic assumption) and the decline is therefore distributed evenly, some small institutions will have difficulty surviving without compromising the quality of their programs.

FIGURE VII
NEW YORK STATE POPULATION PROJECTIONS
BY AGE GROUP[1]



[1]Published January 1978 by the New York State Economic Development Board.
SOURCE: NYSED: Postsecondary Information Systems (GLR 7/79).

Four-year colleges in general may draw increasingly from community college pools. Many students do see community colleges as a bridge to four-year colleges. However, the abilities and motivations of many students of community colleges are different from those of the traditional four-year student, and unless adjustments in curricula and instructional methods are made, a serious attrition problem may occur in the four-year institutions who increase their enrollments by drawing from local community colleges.

Racial/Ethnic Shifts

Analyses conducted of expected shifts in the racial-ethnic mix of students in New York City illustrate the potential importance of this factor and the typically institution-specific nature of its impact. Based on current enrollments in New York City schools and recent grade progression ratios by ethnic group, one can expect that the high school senior classes of the late 1980's in New York City will include a substantially smaller proportion of whites than those of the late 1970's (less than 30 percent rather than over 50 percent). They will include large proportions of blacks and Hispanics and a significantly larger proportion of Orientals. This information is significant in light of the differing college participation of each racial/ethnic group in New York City. While 90 percent of the freshmen from New York City enrolled in colleges in the City in 1975, 50 percent of City University students, as opposed to 24 percent of the independent students were nonwhite. This suggests that the independent sector (which enrolls fewer minority students) may be hit harder than the City University by the rapid decline of white high school graduates in the City. City University on the other hand may be able to use this shift to help offset the expected decline in enrollment.

Individual institutions should assess their own situations with this kind of data. A more complete summary of the New York City analysis is available upon request.

What If -- Participation Could Be Altered

Institutions may try to cultivate new sources of students or to become more attractive to the usual student pools by altering the content, location, methods, costs, and prerequisites of course offerings and by increasing the awareness of prospective students of opportunities available to them. Much of the information in the preceding sections is related to the potential of various prospective student pools. The increasing educational level of the population and the increasing rate of change in society both suggest that participation rates could yet climb higher. More women extending their horizons and the 45+ age groups interested in "leisure education" present other possibilities. Question marks remain, however. Adult education growth in California apparently had skidded prior to the enactment of Proposition 13, and the new financial constraints may make adaptations difficult.

Let's first take an optimistic point of view and assume that a 10 percent increase over 1978 levels can be achieved in the rate of participation of all adult age groups for all types of enrollment by 1984. This assumption would produce a 10 percent increase in the adult enrollment projections. Statewide, by 1992 this would mean approximately 10,000 more full-time undergraduates, 22,000 more part-time undergraduates, 4,000 more full-time graduates, and 10,000 more part-time graduates. Full-time equivalent enrollment would decline from 719,484 to 601,000 rather than to 551,000 (as in the scenario outlined above) or 580,000 (as in the baseline assumptions adjusted for recently observed outmigration levels). This is still a decline of 16.5 percent and it is not at all clear what kinds of social changes, system changes and financial incentives it would take to produce such a large increase in participation.

Where these additional students would be enrolled also is not clear. Their participation may have no relation to current participation patterns since it would undoubtedly involve artifically induced participation. It would be more related

geographically to population densities and institutionally to those colleges which devoted efforts to attract the new students. Conceivably, any institution could be a major beneficiary. It does seem unlikely that the benefits would be evenly distributed.

Next, let's assume that a part-time Tuition Assistance Program with no credit hour restrictions is implemented for undergraduates by 1983. Little information exists to estimate the impact of such a change. However, a 10 to 15 percent increase in part-time undergraduate enrollment might occur, although this may be optimistic since many part-time students already have aid available from the BEOG program. One can expect that a number of full-time undergraduates already receiving TAP would choose to shift to part-time status, possibly as many as three to four percent of the full-time undergraduates. Most likely they would come from the freshman through junior classes. Using these assumptions, part-time undergraduate enrollments might increase by 40,000 in 1984 and full-time undergraduates might decline by 18,000 students during the initial implementation year. Converting these numbers to full-time equivalents, almost 13,000 students might be gained while considerably more would be lost. Although access goals might be achieved, a net loss of 5,000 full-time equivalents could result in the first year.

If those students who switched from full to part-time status could be expected eventually to take as many courses as they would have taken as full-time students (a big assumption), then eventually the student flow process would sort out such that there was no net loss in full-time equivalents due to switching and in fact a gain would occur due to the additional "new" part-time students. The proportions of full and part-time students would change dramatically, but the entire process might require 6-12 years. Small increases in full-time equivalents would be likely after the first two years. It is unlikely that those students who switched would

persist sufficiently to complete as many courses as they would have given the more supportive conditions of full-time status, so the ultimate level of increase is uncertain.

Finally, let's consider the possibility that a saturation of sorts occurs among the adult population pools. In 1970, 1975 and 1978 part-time undergraduate participation rates for the 15-59 age group were .016, .024 and .021, respectively. A fifty percent increase occurred between 1970 and 1975 after which a reversal occurred. Part of the increase in enrollments is attributable to the population increase of the 20 to 30 year olds. However, much of the increase is a response of adults to improved educational access. Many older adults have participated in education for the first time. It is reasonable to suppose that much of this "excess" demand has been met and that without offsetting influences participation rates may retreat toward pre-1970 levels.

Assuming that part-time undergraduates rates declined another five percent (to .0196) from 1978 levels by fall 1980, enrollment declines in the State would occur earlier than has been suggested thus far. In 1980 this would convert to 5,700 fewer full-time undergraduates and 12,000 fewer part-time undergraduates from those levels simulated. In 1992, the losses would be approximately 4,000 and 11,000 respectively, or 1.7 percent. The losses would be felt throughout the State, but especially for those institutions having a high proportion of adult students, particularly community colleges.

While undergraduate programs may suffer from a saturation effect, part-time graduate programs may benefit. The proportion of the population eligible for graduate education is increasing and the incentives for continuing one's education are not expected to lessen.

CHAPTER 5

SUMMARY

Full-time undergraduate enrollments in New York State are projected to decline from 1978 levels as much as 20-35 percent by 1994. These projections are based on known declines in elementary and secondary enrollments by grade, population projections by age group, recent increases in population migration out of the state, and small declines expected in participation and retention rates. These declines are expected to vary across institutional sectors, levels, and regions, and institutional type within each of these categories. The declines by 1992 range from 10 percent for proprietary institutions to 40 percent for community colleges depending on local demographics, the relative attractiveness of institutions and the availability of "reserves" of applicants. Similar variations are expected across the regions in the State.

Statewide, graduate and part-time undergraduate enrollments are generally expected to remain stable until 1985 after which significant declines are expected. By 1994, part-time and full-time graduate enrollments are simulated to decline by 5 and 16 percent, respectively. Once again, the regional and sector simulations suggest significant variations for different types of colleges and regions.

On a full-time equivalent basis, enrollments are projected to decline from between 9 and 36 percent for the various sector, level, and regional aggregations. The enrollments of individual institutions are expected to vary even more widely dependent upon the unique circumstances of each institution. However, almost all institutions are expected to encounter drops in enrollments.

Almost all institutions are also expected to experience shifts in the characteristics of their students which will require additional adaptations of faculty,

curricula, and procedures. Demographic changes, economic and social trends, and shifts related to competition among colleges will lead to fewer traditional students and more low-income, minority, older, female and part-time students. Substantial shifts in the programs desired for these students will occur for both undergraduate and graduate students. Many of these students will be less well prepared academically than the traditional student and will have different motivations. The demographic changes are large; traditional students may soon be a minority. Many college departments will be affected not only by the drop in total student numbers but by additional drops related to shifting program emphases and the need to change faculty skills and attitudes about student motivation (roles) and instructional methods (including remediation). These changes are expected whether or not colleges are able to attract more students into the system. To the extent that college participation increases, many of the adaptations will be more difficult because the increase is most apt to be in nontraditional programs.

A small decline in full-time undergraduate participation is currently being projected by the Education Department, but significant declines are possible. Consider the following negative influences on participation rates:

* High rates of out-migration from the State are expected to continue and proportionally more of those migrating out appear to be from the more educated higher participation groups.

* The economic advantage of a college education appears to be decreasing.

* The shift in population composition is toward groups with traditionally lower participation rates. In New York City not only will the number of high school seniors drop substantially by 1988, but the drop may occur only in the number of white students. Blacks, Hispanics, Asians and American Indians may increase from 48 percent of the seniors in 1977 to 74 percent in 1988.

* Military need for young recruits is apt to remain stable while the relevant population pool declines. Thus a higher proportion of the pool will likely be diverted into the military leaving fewer for higher education. From one

scenario this could result in 25,000 fewer full-time undergraduates than has been projected for New York State.

* Business, military, community and other noncredit programs are increasingly competing with colleges.

* An educational saturation may be appearing among adults. High particiption rates in the 1970's have been related to meeting the needs of underserved adults. A smaller proportion of the population may have this need in the future.

Given these conditions and the desire to avoid precipitous enrollment declines it is natural that colleges would attempt to attract and serve those populations which are still underserved. However, it will be virtually impossible to fully offset the projected declines. This would require that the ratio of resident freshmen to high school graduates increase from 57 percent in 1975 to near 90 percent in 1990. Nor is it likely that increased adult participation can make up the difference. Most of these students would attend part-time. The participation rate of part-time undergraduates would have to more than double; more than 500,000 part-time undergraduates would be needed to offset the 168,000 fewer full-time equivalents projected by 1992.

While not a panacea, targeting programs and aid to certain groups probably can increase participation for several of the following groups:

* Black and Hispanic groups, in particular, obtain college degrees at only one half the rate of whites. The Regents access goal provided a clear mandate for action to reduce this discrepancy. It appears, however, that the problem is retention in both high school and college. Black and Hispanic high school seniors actually have higher entrance rates to college than do whites.

* Low income whites, both urban and rural, also have low participation rates but the potential for tapping these students and the resulting enrollment change is uncertain and probably small.

* 1978 participation rates for women exceeded those for men for the first time in New York State and even exceeded the recent peak participation rate for men. Because some of this participation has surely involved "underserved" adult women, a pool which may soon saturate, we cannot count on this rate continuing to rise and it could reasonably decline slightly in the near future.

* Increasing adult participation has been mentioned frequently as the most likely source for increasing enrollments. Adults do represent a very large eligible pool of prospective students. It is expected that the increasing educational level of the adult population and a number of other social conditions encouraging life-long education of various types will exert an upward influence on participation rates. But it is also expected that personal economics, a slowdown in economic growth of the state and a saturation of traditional underserved adult pools will come close to counteracting the positive influences. Policy intervention such as implementation of a part-time TAP program might increase participation but it might also reduce full-time enrollment. If increases do come, they are apt to involve students with different and more demanding needs for services.

* Out-of-state students are also unlikely to help offset the decline in traditional resident students. Examination of projected high school graduates in those states which New York typically draws from show similar declines to those expected in New York. In addition, interstate migration of students has typically not been affected significantly by changes in the educational system and its costs --witness the constancy of migration patterns in this decade. Competition and the relative attractiveness of institutions across states may have an impact. Surrounding states may have an edge due to the number of highly attractive colleges in these states.

* Foreign students do represent a potential source of students if admitted at tuition levels set at full cost and if the problems in responding to the special needs of these students are met. Many developing countries may take advantage of this service, but it would require cultivation. The magnitude of the potential enrollment gain is unknown.

Increased aid programs would be most likely to produce uniform changes in enrollments. However, the major gains are likely to be realized by a limited number of institutions which most successfully initiate programs to induce greater participation. In addition, if the introduction of new programs designed for new clientele is rushed and they are not properly designed, high attrition rates could result and groups of people could be turned off to further participation in higher education. While the actions of institutional and statewide planners may not be able to offset demographic declines they may substantially influence the nature and distribution of the declines.

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